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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,497

06/02/2006

Babak Heidari

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EXAMINER

SOLLENBERGER, STEPHEN J

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

11/25/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/581,497	Applicant(s) HEIDARI ET AL.	
	Examiner STEPHEN SOLLENBERGER	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 15-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 5-14 is/are objected to.
- 8) ☒ Claim(s) 1-27 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: ____. |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :8/29/2006, 10/09/2008, and 10/26/2009.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C.

121:

- I. Claims 1-14, drawn to apparatus, classified in class 425, subclass 174.4.
- II. Claims 15-27 drawn to method, classified in class 264, subclass 496.

The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process and apparatus for its practice.

The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process (MPEP § 806.05(e)). In this case, the apparatus as claimed can be used for a different process such as to imprint a pattern using a heat curable liquid or a gel rather than a gas.

Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

- (a) the inventions have acquired a separate status in the art in view of their different classification;

Art Unit: 1791

- (b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;
- (c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);
- (d) the prior art applicable to one invention would not likely be applicable to another invention;
- (e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence

Art Unit: 1791

now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

During a telephone conversation with David Longo on 11/05/2009 a provisional election was made with traverse to prosecute the invention of the apparatus, claims 1-14. Affirmation of this election must be made by applicant in replying to this Office action. Claims 15-27 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude"

Art Unit: 1791

granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Omum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969). A timely filed terminal disclaimer in compliance with 37 CFR 1.321 (c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 - 4 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 - 6 of copending Application No. 11/905,036. Though the claims are not the same, both the instant application and that of 11/905,036 teach an apparatus for transferring a pattern from a template to a substrate carrying surface of a

Art Unit: 1791

radiation-polymerizable fluid, wherein the apparatus comprises a first main part and a second main part having opposing surfaces, means for adjusting a spacing between said main parts, support means for the template and substrate, a substrate, a radiation source to emit radiation and a cavity sealed by a membrane.

Claim Objections

Claims 5-14 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claims 5-14. See MPEP § 608.01(n). Accordingly, the claims 5-14 have not been further treated on the merits.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, and 4 are rejected under 35 U.S.C. 102(b) as being unpatentable over Heidari (WO/0142858; US 2003/0159608 A1 used for citations).

Heidari teaches an apparatus for transferring a pattern from a template having a structured surface (fig. 1, **10**) to a substrate carrying a surface layer of a radiation polymerisable fluid (fig. 1, **5a**), said apparatus comprising a first main part and a second main part having opposing surfaces (fig. 1), means for

Art Unit: 1791

adjusting a spacing between said main parts (fig. 1), support means for supporting said template and substrate in mutual parallel engagement in said spacing with said structured surface facing said surface layer (fig. 1, **3, 4**), a radiation source devised to emit radiation into said spacing (fig. 7, **R'**), a cavity having a first wall comprising a flexible membrane devised to engage said template or substrate (fig. 1, **9**), and means for applying an adjustable overpressure to a medium present in said cavity (fig. 1, **12**, Paragraph 44) using a gas at an adjustable pressure between 1-500 bar ("liquid or gas...1-500 bar (excess pressure), preferably 1-200 bar"; par. 14).

The Examiner is noting that Applicant has claimed in claim 1, means for adjusting a spacing between said main parts, means for supporting said template and substrate in mutual alignment and means for applying an adjustable overpressure to a medium present in a cavity. Each of these limitations has been claimed in means plus function form and thus, is interpreted by the Examiner as an invocation of 35 U.S.C. 112, 6th paragraph. The means for adjusting a spacing between said main parts is identified as a piston member attached at its outer end to a plate, wherein the piston member is displaceably linked to a cylinder which is preferably held in fixed relation to said first main part (page 10 of the Specification) and equivalents thereof. Thus, because the primary reference of Heidari teaches that the substrate and template are displaced towards each other by a drive means (paragraph 0056), Heidari teaches the means for adjusting a spacing as claimed.

Art Unit: 1791

With respect to the means for supporting said template and substrate, such means are interpreted as a support structure in the form of a plate as noted in the Specification and equivalents thereof which perform the function of supporting the template and substrate in the similar manner. Thus, because the primary reference of Heidari teaches a support plate for both the template and substrate, Heidari teaches such support means as claimed.

Lastly, with respect to the means for adjusting an overpressure, such means are interpreted as a conduit connectable to a pressure source per the Specification and equivalents thereof which can perform the function of adjusting an overpressure in the similar manner. Thus, because the primary reference of Heidari teaches an inlet channel which allows the medium in the cavity to increase via the introduction of a pressure medium, Heidari teaches the means for adjusting an overpressure as claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heidari (US 2003/0159608 A1) in view of Chou et al. (US 2004/0131718 A1).

Heidari teaches the cavity is pressurized and a gas including air would be an obvious alternative choice to pressurize the chamber. However, Heidari does

Art Unit: 1791

not explicitly teach wherein said medium comprises a gas such as air. In the same field of endeavor of forming structures using nanolithography, Chou et al. teach the use of a air to pressurize the cavity ("The pressurized fluid can be gas or liquid. Pressurized air is convenient and typical pressures are in the range 1-1000 psi"; par. 31).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the pressurized apparatus of Heidari with the use of air as disclosed by Chou et al. for the benefit of a convenient and readily available source of fluid pressure.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN SOLLENBERGER whose telephone number is (571) 270-1922. The examiner can normally be reached on 9 am - 5 pm schedule, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on (571) 272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1791

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

sjs

/Joseph S. Del Sole/
Supervisory Patent Examiner, Art Unit 1791